A Work Project, presented as part of the requirements for the Award of a Masters Degree in Finance from the NOVA – School of Business and Economics

Empirical evidence on the difference between the effective and the statutory tax rates for listed groups in Germany

Andreas Felix Jan #778

A project carried out in Finance and Accounting Area, with the supervision of:

Professor Leonor Ferreira

January 7th, 2015

Abstract

The difference between the *statutory* and *effective tax rate* for listed groups is a complex variable influenced by a variety of factors. This paper aims to analyze whether this difference exists for listed groups in the German market and tests which factors have an impact on it. Thus the sample consists of 130 corporations listed in the three major German stock indices. The findings suggest that the companies that pay less than the *statutory rate* clearly outweigh the ones that pay more, and that the income earned from associated companies has a significant impact on this difference.

Keywords: Effective Tax Rate, Tax Avoidance, Germany, Annual Reports

1. Introduction

"This could explain why we do not know of any German companies with comparable tax arrangements" (Handelsblatt, 2013, September 30th) wrote the German Minister of Finance, Wolfgang Schäuble, to his US colleague Timothy Geithner. With this statement he referred to the German tax system which, according to him, makes it much more complicated to shift taxable income from Germany to low tax countries, like it was the case in America in his opinion. Thus, the main motivation behind this working paper is to find evidence to not reject this bold statement by the German Minister of Finance in order to know if German groups do actually pay their share of taxes, required by the state, and if this is not the case, analyze possible deviations.

Corporate tax avoidance is receiving more and more attention recently. This can be observed for instance by the huge outcry in the media regarding tax inversions by US companies. According to the Financial Times there have been 13 tax-driven takeover deals announced since the beginning of 2013 with a combined value of US$ 178 billion (Financial Times, 2014, September 14th). In Germany however, there has been little attention paid to the corporate side of tax avoidance, and much more on mostly prominent individuals instead, such as the famous case of Bayern Munich football official Ulrich Hoeness, who was sentenced to jail for three and a half years for substantial tax evasion (Handelsblatt, 2014, March 13th). A reason for this lack of focus on tax issues regarding corporations could be that tax evasion by individuals is much easier to understand for the broad public, in comparison to much more complicated group taxation issues.

From a socioeconomic perspective the literature usually focuses on the costs for a society as it can be seen in Cobham (2005), who estimates the total cost of tax evasion to developing countries at US$ 385 billion annually. From a financial perspective, on the

other hand, tax avoidance is, as long as it is not practiced at extreme or illegal levels, seen as value maximizing, since it transfers part of the wealth from the government to the shareholders. This has, for instance, been displayed by the studies of Lee et al. (2013), who show that certain forms of tax avoidance, as long as they are not too aggressive, have a positive impact on the cost of equity since they lower them. Shevlin et al. (2013) contribute to this debate by showing that tax avoidance can lead to higher costs of public debt.[1] Regulators, to name another party involved, have positive incentives to set the barriers for tax avoidance as well as tax evasion, as high as possible of course, in order to fulfill their obligations towards their employer, the state.

Regardless of this question of conflicts of interest between the different parties involved in a country's tax system, the issue this paper addresses is not about the effects of tax avoidance themselves, but how persistent it is actually among German groups. To this end, information from the annual reports of German groups in the period of 2008-2013 is gathered. Subsequently a comparison between the tax rate imposed by the government and the actual taxes paid follows. In a second step the results are analyzed towards possible reasons, such as a high debt ratio, high ratio of dividends earned by associated companies, and possible advantages for certain industries, namely companies in the technology sector. The reason the technology sector is chosen is that there seems to be the perception in German public that it is especially easy for technology companies to shift their earnings to other countries by using licensing models.[2]

[1] Note however, that the findings of Lee et al. (2013) and Shevlin et al. (2013) do not necessarily contradict each other that much, since Lee et al. (2013) show the lower cost of equity of to be a result of a not too aggressive tax avoidance, whereas as the higher costs of debt shown by Shevlin et al. (2013) are for companies where "the probability of a tax audit is high". Thus they probably engaged in more aggressive forms of tax avoidance. Nonetheless, the impact of tax policy on the cost of capital shall not be further discussed.

[2] See for example N-TV (2013).

Thus this paper contributes to the existing literature in the following ways. First, it provides an insight in the world of German corporate tax avoidance, by showing to which extent the individual groups in Germany would be subject to taxation by law and how much they effectively pay. Second, it shows which factors do actually have a significant impact on this difference, and thus rejecting certain assumptions often made in this context.

Hence the remainder of this paper proceeds as follows. Section 2 defines the key concepts and provides insight on the German tax system. After the overview prior empirical literature on the matter is summarized in Section 3. Section 4 describes data on the current situation of taxes for German corporations and outlines the Research Questions and the research methodology to answer them. Section 5 presents the results and suggests how to interpret the results on the example of individual cases. Finally, Section 6 concludes with main contributions of the work project, its limitations and suggestions for future research.

2. Key concepts and regulatory framework

2.1. Tax avoidance versus tax evasion

From an economist's perspective, the difference between tax avoidance and tax evasion is marginal to practically non-existent – both aim at reducing the taxpayer's burden (Kirchler, Maciejovsky and Schneider, 2001). For the purpose of this paper however, it is important to distinguish between these different concepts.

Slemrod and Yitzhaki (2002) point out that the original distinction between avoidance and evasion comes from Oliver Wendell Holmes who cites the verdict between Bullen v. Wisconsin:

> *"When the law draws a line, a case is on one side of it or the other, and if on the safe side is none the worse legally that a party has availed himself to the full of what the law permits. When an act is condemned at evasion, what is meant is that it is on the wrong side of the line…"* [Bullen v. Wisconsin (1916), p. 630]

Hence, the criterion of distinction here is illegality. Another definition comes from Kay (1980) who concludes that evasion deals with misrepresenting the nature of the transaction, whereas avoidance is concerned with presenting the actual facts but arranging them in such a way that the tax treatment differs from that intended by the relevant legislation.[3]

To come back to the statement at the beginning of this paper, the question to be analyzed is whether German companies make use of certain loopholes or "arrangements" as Mr. Schäuble calls them, in order to avoid paying taxes. As a result the analysis will focus on tax avoidance defined as the difference between *effective* and *marginal tax rate* and not on tax evasion.

2.2. Consolidated versus individual accounts

Given that the purpose of the paper is to analyze listed groups that present consolidated accounts it is important to highlight the difference between consolidated and individual accounting as a basis for taxation and the effect of bilateral treaties/agreements regarding double taxation on these.

Consolidated accounting consists of combining the financial statements of the parent company and its subsidiaries as well as associated companies and other participations in order to present an aggregated look on the financial position of the entire group (Hove, 2006). Taxation on the other side is based on individual accounts, unless the group opts for paying on the group basis for which certain requirements need to be fulfilled (see Section 2.4.2 for Germany). Since this is a right of choice for every single subsidiary, the consolidated annual reports are likely to mingle taxes paid on a group basis and taxes paid

[3] As clear as the differentiation between legal and illegal or representing actual or rearranged facts might sound, a lot of gray areas do exist of course and as Slemrod and Yitzhaki (2002) point out, sometimes tax authorities may characterize certain cases inappropriately.

on an individual basis.[4] Hence when analyzing the figures one always need to be aware that one is looking at aggregate accounts from numerous companies.

When considering foreign participations, the question is whether the company's home country imposes a system of worldwide taxation which leads to the risk of double taxation, or if foreign-source income is exempted from domestic taxation (Huizinga/Voget, 2009). The reason is that. in the second case, companies have the possibility to shift their earnings abroad. This question is however very dependent on each country's tax regulation, and thus, will be answered for the part of Germany in the chapter 2.4.2. For domestic participations on the other side this question is of less importance off course, given that these participations are already subject to the tax system in Germany.

2.3. Marginal effective and statutory tax rates

For the sake of this paper the interest lies in finding the difference between the *statutory tax rate*, as in the percentage of income that the regulatory system wants the company to pay as taxes, and the *effective tax rate* as in what the company really pays. But what does this mean?

Graham (1996) for instance, does not make this separation and defines the marginal tax rate as *"…the present value of current and expected future taxes paid on an additional dollar of income earned today."* [Graham (1996), p. 44]. This definition comes close to what can be seen as an *effective tax rate*. Fullerton (1983) concretizes this further by saying that the *effective tax rate* is the wedge that separates the pre-tax return on an investment from the post-tax return to the saver.

[4] As 2.4.2 shows, in order to answer the question of how much taxes the group paid as a whole, this is of no importance however for German accounts. The reason is that no matter if taxes are paid on an individual or a group basis they do result as tax payments in the consolidated income statement of the group since this right of choice can just be exercised for subsidiaries according to the definition of IFRS 10. Thus the taxes accounted for, no matter on an individual basis or a group basis, do result in any way in the consolidated report.

In order to provide a basis for the analysis in this paper, this definition by Fullerton (1983) is adapted. Hence the pre-tax profits in the annual reports are taken and compared to the ones post-tax.

The second important definition to make is the one of the *statutory tax rate*. However, given that this is the tax rate intended by the regulator, it is very country-specific. Hence a definition of the *statutory tax rate* is given in the following chapter, for the German system.

2.4. Legal framework in Germany

2.4.1 Business taxation

From a normative perspective the question is why people actually do obey the law. Great work has been delivered on this question by the articles of Tyler (2006) and Parisi (2004). This social perspective extends however the scope of this paper, so that the following paragraph provides an overview on the literature that comprises the law.

The main two taxes corporations pay, the *Körperschaftssteuer* (income corporate tax) and the *Gewerbesteuer* (trade tax), are set in two different tax codes, namely the Körperschaftssteuergesetz (income corporate tax law) and the Gewerbesteuergesetz (trade tax law). The foundation for these two codes is then the so-called Abgabenordnung (fiscal code of Germany), which can be seen as the constitution for German tax codes. This is stated in § 1-§§1 Fiscal code of Germany, where it says that this law is applicable for all taxes that are regulated by the German or the European Union authorities.[5] Another important source of literature is the OECD model convention with respect to taxes on income and capital.[6] This classical model convention sets out guidelines between two states

[5] Of course these tax codes are entangled with a vast amount of other tax codes, as well as other legal codes, such as the German civil code.

[6] See "Model Convention with Respect to Taxes on Income and Capital" (OECD, 2014)

in order to help them treat the issues of taxation between two countries (OECD-MA Chapter V).

As Kraft/Kraft (2009) explain, the first tax for corporations is the income corporate tax. As a legally independent entity, this is the tax that a corporation has to pay on its income. Surprisingly simple, the tax rate is here assessed at 15 percent of the profit in the year the profit has been earned. In addition to this tax all German individuals and corporations – as long as they exceed certain thresholds – are subject to the *Solidaritätszuschlag*, which amounts to another 5.5 percent on the amount of the income corporate tax.[7]

Given that the second tax, the trade tax, is being received by the communities the corporation operates in, the calculation is more difficult. There is principally a basis percentage of 3.5 percent which is then combined with a certain multiplier over which the community decides itself. The legal minimum for this multiplier is 200 percent[8], but there is no upper limit, which enhances some sort of competition between the communities. Among most cities though, the multipliers vary in the range of 300-490 percent. Thus the trade tax typically varies between 10.5 and 17.15 percent and the whole tax burden between 26 and 33 percent.[9](Kraft/Kraft, 2009).

Additionally both of these taxes are increased due to certain non-deductibility rules of interests paid for debt, which lead to interest add-backs. The Income corporate tax law sets an interest barrier which states that interest expense exceeding interest income is just 30 percent deductible for interest expenses exceeding a threshold of €3 million (Income corporate tax law, §8a). As for the trade tax the interest expense is just 75 percent

[7] The "Solidaritätszuschlag", which means literally solidarity surcharge, was initially brought up in order to fund the reconstruction of Eastern Germany. It is however a fixed part of the German tax system now and shall not be further discussed here.

[8] Thus 200 is multiplied with 3.5percent which leads to a legal minimum of trade tax of 7percent.

[9] For a detailed example see Appendix 1

deductible if certain thresholds are exceeded, also for other figures than interest, such as rent (Trade law, §8 Number 1a).[10]

2.4.2 Taxation for groups in Germany

As Figure 1 shows there are three different types of participation according to the level of control: Operating income, which includes more than 50 percent of the voting rights in the subsidiary and is consolidated, financial income which includes voting rights between 20 and 50 percent in the associated company and is not consolidated, and last but not least income of non-controlling interest.[11] This is important for tax purposes as the following explains.

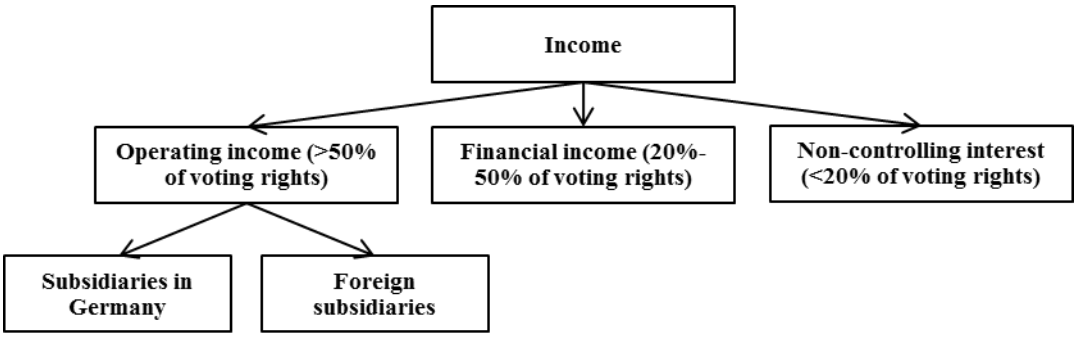


Figure 1 – Income categories according to level of control

Parent companies in Germany can opt for paying taxes on a group basis for its German subsidiaries, if the subsidiary is contractually obliged to transfer all profits to the mother and if the mother company has more than 50 percent of the voting rights in the subsidiary (§14 Income corporate tax law). Given that the annual reports used as a basis for the analysis are all consolidated income statements and IFRS 10 has a similar definition for

[10] This might impose a small limitation since it is not possible to calculate the impact of debt on the statutory tax rate because some figures needed are not published.
[11] Given its minor role, non-controlling interest will not be further treated here.

control[12] the taxes paid by such subsidiaries, whether in a group basis or not, are always included in the consolidated income statement. Thus for the analysis the question of group taxation makes no difference and we can conclude that profits from subsidiaries in Germany are never subject to double-taxation.[13]

In the case of foreign subsidiaries the foundation for taxation and for the double taxation agreements in general, is built on the "OECD Model for Tax Convention on Income and on Capital". Principally it says that if the mother company has business premises in another country in order to conduct its operations (OECD-MA Art. 7, § 1, Sentence 1) these profits earned by the business premises in the foreign country are primarily subject to the taxes in this country. Thus the foreign income is as well exempted from double taxation.

Income from associated companies (IAS 28) that are part of the financial income shown in the income statement are treated differently however. Here the company that holds the participation receives already taxed dividends from a company where it holds a minimum of 20 percent of voting rights but does not control it (IAS28(2011).5).[14] Hence we do not know how much tax has been paid by the associated company. For companies that receive dividends the German corporation law states that they are exempt from taxation and thus usually do not lower the effective tax rate paid by the company (Income corporate tax law, § 8b, §§1).[15]

[12] IFRS 10 adresses the power of the mother company to affect the returns by the subsidiary, which is usually also the case if it has 50percent in the voting stock.

[13] It might be interesting to see however if the holding companies do have certain tax advantages by choosing to opt for paying taxes on a group base. For this it would be needed to compare the individual accounts of the mother company with the consolidated group accounts. This goes beyond the scope of this paper however.

[14] It is stated in IAS 28 that a mother company can also have control over another company in case it has less than 50 percent of voting stock. In this case the income is treated as operating income.

[15] §8b of the German corporation law names a minimum of 15percent in the stake in order to exempt it from trade tax, but given the 20percent minimum of voting rights set by IAS 28 this is fulfilled here. Another nuance is that 5percent of the dividend income is not tax deductible (Income corporate tax law §8b, §§3)

3. Empirical literature review

Most literature focuses on the question of how companies use their tax accounts to conduct earnings management – the use of accounting techniques in order to brighten the company's results (Graham et al., 2011). On the question if corporations actually do pay the percentage intended by regulators on their pre-tax profits in general there has been done less research however and this is especially true for the German market. Nevertheless, the aim of the following Section is to summarize work conducted on this area to date.

One important study on this matter comes from Graham and Tucker (2006). Their analysis revolves around the statement that many firms seem to be under-levered, regarding the potential benefits in terms of tax savings that would result in case a higher leverage was approached. Graham and Tucker (2006) explain this however, by showing that for many companies the engagement in tax sheltering, i.e. tax avoidance, results in tax deductions three times as large as interest deductions (tax shields) for comparable companies. To exemplify this statement they analyze Compaq Computer Corporation and show that Compaq used cross-border dividend capture and transfer pricing in order to produce a minimum of US $115 million in annual tax deductions in the years of 1991 and 1992.

These studies receive further support by various papers that examine companies in the US market with financial statement income that is substantially higher than the income reported to tax authorities (Murray, 2002; Gross, 2003; Drucker 2006). Thus, they support the findings of Graham and Tucker (2006) by proving that the incentives for tax avoidance or sheltering still seem to be high. Further backing comes from Frank et al. (2008) who take these studies one step further by analyzing the question of whether US companies with

which results in an effective tax of the already explained 27-33percent x 5 percent (so roughly 1.5percent) and imposes a small limitation to the analysis.

aggressive financial reporting habits tend to engage in aggressive tax reporting as well. Aggressive financial reporting is then defined as an upward earnings management whereas aggressive tax reporting is defined as downward manipulation (legally or not) of taxable income. Their results suggest a strong correlation between the two.

To sum up, prior literature has shown especially for the American market that there exists a substantial degree of tax avoidance in the corporate sector. A comprehensive explanation on how this avoidance is conducted comes from the already cited Graham and Tucker (2009) who give a qualitative explanation based on a sample of 44 corporations for the US market. For the German market however, there has been less research done. One interesting study is that of Zinn and Spengel (2012) who had access to a dataset of actual tax returns rather than just estimated taxable income, for 135 companies. They find a considerable divergence between corporate taxable income and annual net income reported to shareholders. However, their analysis just focuses on the year of 2009, and thus is imposed to certain limits, since the time frame is quite short. Hence the following intends to provide some additional insights here, by including more years and therefore providing a bigger and more recent dataset.

4. Methodology and sample

4.1. Sample

Given the purpose of this work project is to analyze a possible difference in effective and statutory tax rate for listed groups in Germany, the sample comprises a broad variety of listed German companies quoted in three different stock indices, the DAX, the MDAX, and

the SDAX, which are categorized by market capitalization of the companies they include.[16] This amounts to a total initial sample of 130 companies from different industries, although it is important to mention that MDAX and SDAX do not include companies in the technology industries. The reason for choosing this sample is that these are listed companies. As a result the foundation of the analyzed is the most relevant, and given that they the reports are all audited, also the most trustworthy.

From all of these 130 companies the consolidated the data for the analysis, hence EBIT, EBT, taxes incurred, dividends earned from associated companies, and debt ratio, was hand collected through the investor relations section of each company's website. The analysis covers a period of six years, from 2008 to 2013, given that the annual reports for 2014 are not yet available. The reason for this choice is that in 2008 there was a reformation of the German corporate law, which in substance intended to change certain rights of choice as well as restraints, regarding in particular the formation of hidden assets (Bilanzrechtsmodernisierungsgesetz-Referentenentwurf, 2007).[17]

To sum up, the sample comprises all German industries as well as different classes in terms of size, with companies having a market capitalization as low as €148.5 thousand such as Villeroy and Boch up to companies having a market capitalization as high as €84.3 billion such as Bayer.[18] Also in terms of leverage the sample comprises a wide variety ranging from a debt ratio of 23.58 % (Fielmann in 2010) up to 98.65 % (Deutsche Börse in 2011). This variety also accounts for the industries included in the sample which do not have a specific focus and include the automotive, pharmaceutical and construction industries, to

[16] Thus the DAX includes the 30 largest and most actively traded corporations in the prime standard segment. It is followed by the MDAX which comprises the 50 subsequent companies in terms of market capitalization. Lastly there follow another 50 companies in the SDAX (Deutsche Börse, 2014).

[17] According to Sassen et al. (2008) the German law had in an international comparison rather unusual laws regarding the formation of hidden assets.

[18] Values at year end 2013 (see annual reports 2013 for both companies).

name just a few. Last but not least, the sample also includes all different types of dividends earned from associated companies since it comprises losses and profits, and companies that earn no dividends at all. Therefore it should provide a representative overview of the German corporate landscape (see Appendix 10 for the raw data).

4.2. So do they correspond or not?

4.2.1 Obstacles

As it was stated at the beginning, the aim of this paper is to answer the question of whether the *effective tax rate* for groups in Germany corresponds to the *statutory tax rate* intended by the regulators. The basis for the *statutory rate* has already been established in Section 2.3. However the comparison with the *effective tax rate* is subject to certain obstacles. First it has already been shown, that there does not exist one statutory rate for all German companies, due to the competitive tax system among the communities in which they are embedded. Thus the range goes from approximately from 25 to 33 percent. As a result the community in which a company is located needs to be taken into consideration.

A second problem consists of how to treat for tax losses carried forward produced by companies, since they can be deducted from future earnings (Income corporate tax law, § 10d). Thus they skew the sample since the resulting "tax rate" cannot be compared with the rigid percentage of how much a company should pay according to the law. In order to avoid this problem the companies that reported losses within one or more of the last five years, were excluded from the final sample.[19]

[19] This means an exclusion of 62 companies for the calculation of the five year average of effective tax rate, thus Section 4.2.2. For the further analysis however the years of companies that produced losses were included, if they all the tax losses carry forwards were offset by profits already. Thus for the analysis in Section 5, just 47 companies were excluded.

In addition it is necessary to clarify which values are actually to be compared to build a first foundation for further analysis. As it was explained in 4.1, the final sample includes the annual reports of 130 German corporations from 2008-2013. When calculating the effective tax rates by the definition made in 2.3, there are principally two possibilities regarding the average: first, to compute the arithmetic average of the effective tax rates that are expressed in percentage for each of the five year; second, to compute all taxes paid over five years as percentage of the sum of all earnings for five years. Although the former method might be more intuitive, it builds the average for percentage numbers with different basis. Therefore, the resulting figures are skewed since they do not account for the appropriate weight.[20] Hence the second method is applied.

Last but not least there remains the questions of the extent to which the dividends earned from associated companies have been taxed and where, as it is explained in Section 2.4.2. Given that this information is not published in the annual reports there is no possibility of overcoming this obstacle. However, one can draw the conclusion that a high proportion of dividends earned should in theory lead to a lower effective tax rate in the consolidated income statement, and thus serve as a basis for further analysis.

4.2.2 Correspondence of *statutory* and *effective tax rate*

As Chart 1 shows, for the DAX there are 19 companies that are left, after omitting those that produced losses within the last five years.

[20] See Appendix 2.

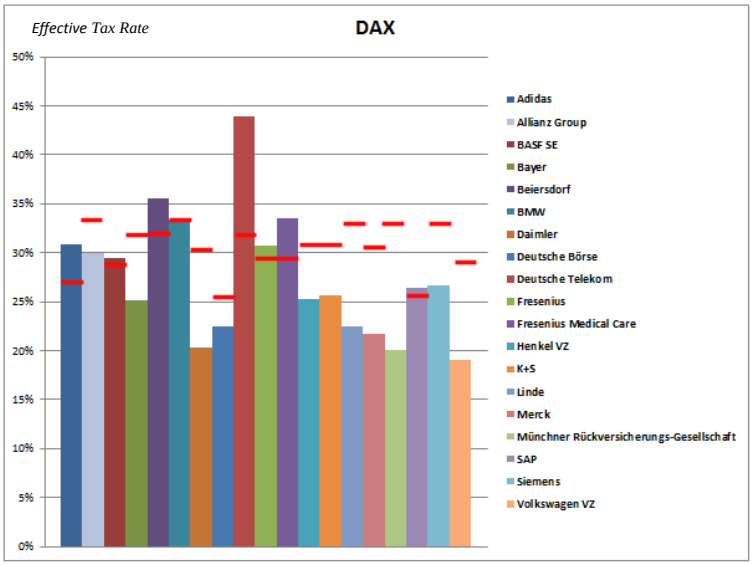


Chart 1 – Correspondence on an individual basis DAX

Out of these 19 companies, eleven have a lower *effective tax rates* than the *statutory* one. Since among the other eight there are some that actually pay substantially more than they would be required to, this does not give a sufficient overview on the big picture. Hence Chart 2 provides deeper insight on the difference in terms of impact on a cumulated basis, since it sums up the differences between *statutory* and *effective tax rate*. Chart 2 shows the *effective tax rate* minus the *statutory* one for each of the 19 companies.

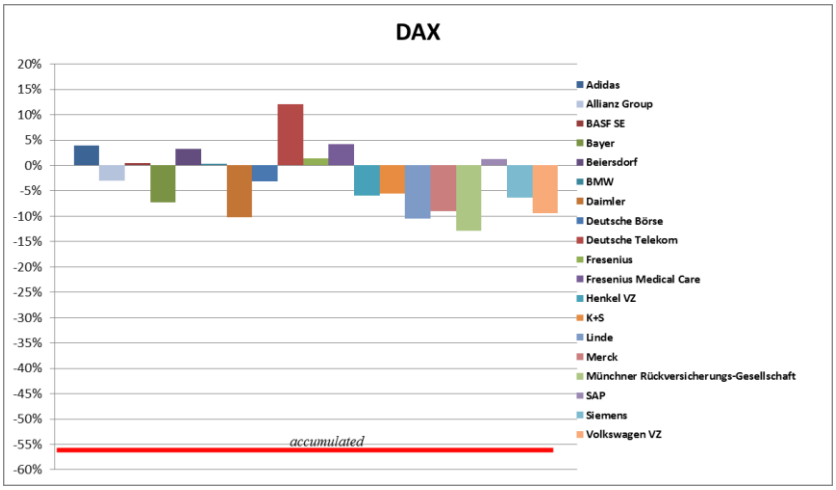


Chart 2 – Correspondence on a cumulated basis DAX

Beneath, at a value of -56.25 % it shows the sum of these values, indicating that the companies that pay less than the *statutory rate*, clearly outweigh the ones that pay more. The taxes saved in total by the companies in the DAX amount to 15,240 billion €.[21]

So is there a difference for smaller companies? Charts 3 and 4 provide some information on the MDAX and SDAX, using again a cumulated basis of the difference between *effective* and *statutory tax rate*

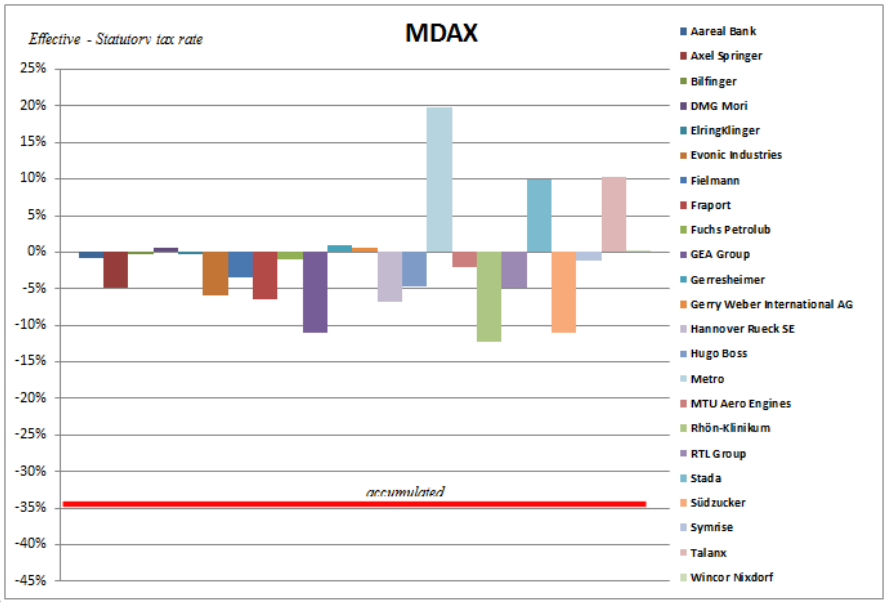


Chart 3 – Correspondence on a cumulated basis MDAX

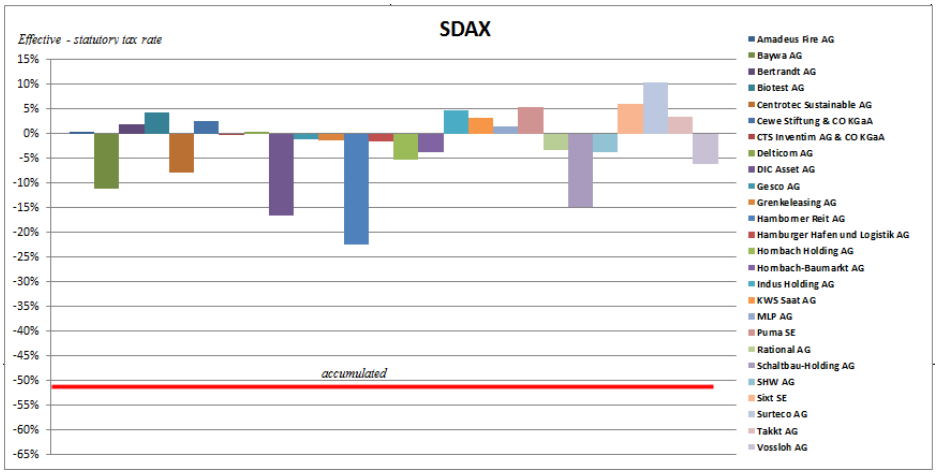


Chart 4 – Correspondence on a cumulated basis SDAX

[21] These figures include the taxes paid above the *statutory rate*.

As one can see, also for the two samples of smaller companies in terms of market capitalization there is no difference, showing that there is no effect in terms of size.[22] In euro terms the taxes saved by the companies of the MDAX amount to €166.46 million and in the SDAX to €100.45 million.[23]

4.3. Research Questions

Now that the correspondence between the *statutory* and the *effective tax rate* has been examined, possible reasons for the deviations are analyzed. Hence, the following tests the impact of certain variables on the dependent variable α:

$$\alpha = effective - statutory\ tax\ rate \qquad [1]$$

α serves as the proxy for tax avoidance (see Section 2.1).[24]

When it comes to the factors that influence the *effective tax rate* one of the first questions to ask regards the leverage a group takes on given the partial deductibility of interests paid. Thus the influence of leverage in form of the variable of a debt ratio (=defined as total debt/total assets) is tested. Hence the Research Question (RQ) is the following:

RQ 1: Does the Debt ratio impact α?

$H0: \beta_{Debt\ ratio} = 0 \qquad H1: \beta_{Debt\ ratio} \neq 0$

Regression: $\alpha = a + \beta_{Debt\ ratio}\, x_1$ [2]

With: $\beta_{Debt\ ratio}$ = debt ratio coefficient

x_1 = total debt/total assets

In line with the RQ 1, a positive difference between EBIT and EBT, meaning financial expenses exceed financial income, should lead to a lower tax rate. Research Question 2 intends to measure this impact by isolating this difference from the dividends earned:

RQ 2: Does I impact α?

[22] Interestingly there seems to be no effect in terms of evolution (Appendix 9).
[23] These figures include the taxes paid above the average.
[24] The dependence is tested by running regressions via excel.

$H0: \beta_I = 0$ $H1: \beta_I \neq 0$

Regression: $\alpha = a + \beta_I x_2$ [3]

With: β_I = Interest coefficient

x_2= Isolated interest

As it has already been discussed, dividends earned from another entity are of importance when it comes to the analysis of tax payments, since these profits have already been subject to taxes (see Section 2.4.2). Thus the higher dividend earned are as a percentage of total earnings before taxes, the lower the effective tax rate should be. Subsequently the third Research Question is:

RQ 3: Do dividends earned from associated companies impact α?

$H0: \beta_{Dividends} = 0$ $H1: \beta_{Dividends} \neq 0$

Regression: $\alpha = a + \beta_{Dividends} x_3$ [4]

With: $\beta_{Dividends}$ = dividend coefficient

x_3 = income from associated companies/EBT

Similarly to the analysis of the debt ratio the variable here is a ratio between the dividends earned from participations between 20 and 50 percent (and no significant control) and the pre-tax profits.[25]

Last but not least, it is of interest, whether certain industries have an advantage when it comes to lowering the tax rate. This is especially interesting for the IT industry, since it is a knowledge-based industry, which makes it hard to identify where the costs actually occurred. Thus the question is:

RQ 4: Does the IT industry have a lower effective tax rate than the average of the whole sample?

$\Omega > \varepsilon$

Ω = effective tax rate for the DAX, MDAX and SDAX

[25] It is more suitable to take the pre-tax profits here in order to avoid a bias, since these are the ones that are not influenced by the effect of the dividends earned, which is what we actually want to measure.

ε = effective tax rate in the IT industry

In order to answer RQ 4, the sample will be compared to a new indices of 30 companies (TecDax) not included so far, that come specifically from the technology sector.[26]

5. Results

5.1. Debt ratio and α (Research Question 1)

As Table 1 (Appendix 5) indicates the leverage a corporation takes on just explains a very small part of the deviations between effective and statutory tax rate, as can be seen in the low R Square of 0.57%. Also the influence is with a p-value of 0.11 not even significant at the 10% confidence interval. All in all, it can be said that the Debt ratio variable, defined as total debt divided by total assets does not explain the difference between the effective and the statutory tax rates.

These findings are interesting given the high emphasis put on debt when it comes to taxation. In order to draw a conclusion here, Research Question 2 needs to be analyzed first however, to see if the isolated interest is just a more accurate variable when it comes to measuring the impact of how much debt a company takes on.

5.2. Isolated interest and α (Research Question 2)

Table 2 (Appendix 6) shows the regression on the in Section 4.3 defined variable x_2. With an R Square of 1.1% the validity of the model is again very low. Although the significance level is now reached, being significant at the 5% confidence interval with a P-value of 0.03, the algebraic sign before the coefficient (1.67%) is positive. This means that the higher the interest expenses are, the more the *effective* exceeds the *statutory tax rate*. This might seem surprising at first glance, but corresponds however to the described legal framework in

[26] See Appendix 4 for a list of the companies included.

2.4.1 because the higher the interest paid are, the higher the *effective* compared to the *statutory tax rate* is, since the *statutory rate* does not incorporate the effect of interest add-backs here. This is also consistent with the findings of Zinn and Spengler (2012) who identify interest add-backs as a major source of divergence between accounting and taxable income.

For this work project however, the model confirms the findings of RQ 1 by saying that the interests paid (and thus indirectly the leverage) do not explain why the groups that effectively incur in less taxation clearly outweigh the ones that suffer more (Section 4.2.2).

5.3. Dividends earned and α (Research Question 3)

Table 4 (Appendix 8) shows that the coefficient for income from participations has with a value of -0.060 a negative impact. Hence an increase in the dividends earned by 1 % leads to a decrease of -0.06% in taxes. This effect is clearly significant even at the 1% confidence level. The R Square (2.27%) is still low, but higher than that for RQ 1 or 2. As a result one can conclude that the response caused by the variable is significant, but there are lots of other influences hidden in the intercept that explain the difference between the *effective* and the *statutory tax rate*.

When it comes to internal validity problem in time series is often that of autocorrelation, meaning that the assumption of zero covariance in the error terms over time is violated (Brooks, 2008). Given the Durbin-Watson (DW) test-statistic of 2.04,[27] one can conclude, that autocorrelation is not the case, meaning that the residuals are uncorrelated. There is to say however that the DW test is usually used in time-series, which is not really the case in the sample at hand, given the focus of one variable for 130 companies over just five years.

[27] $DW = \frac{\sum_{t=2}^{n}(\hat{u}_t - \hat{u}_{t-1})^2}{\sum_{t=2}^{n}\hat{u}_t{}^2} = 2.04$

Interestingly, this seems to back the findings of Graham and Tucker (2006) discussed in Section 3, who found out that the impact of dividends on the tax burden is much more significant than the impact of leverage. Hence, this seems to hold also for the German market.

5.4. The technology industry in comparison - Ω versus ε (Research Question 4)

As chart 7 shows the companies in the TecDAX do actually pay on more on average than they would be required to by the law with Ω being lower than ε.

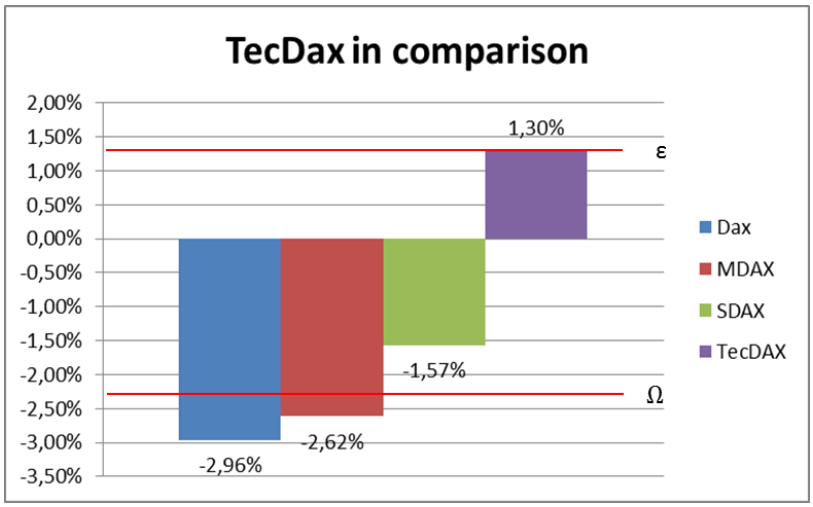


Chart 7 – Average between *effective* and *statutory tax rate* for different indices

This result is very surprising and contradicts the perception in the German public displayed in Section 1, showing that companies in the technology sector are a positive exception from the rule.

5.4. Discussion of the results

It has been shown that dividends earned do have significant impact on α. When it comes to tax avoidance the question is however, where these dividends have been taxed. As it has been discussed in the Sections 2.4.1 and 2.4.2, dividends earned from associated companies in Germany have already been taxed in Germany, thus not leading to an effectively lower

tax rate after all, whereas taxes received from foreign associated companies, are subject to the system there. Hence if the companies do pay fewer taxes in the countries where the associated companies are located, they manage to effectively lower their *tax rate*. This is however very difficult to analyze, because it depends how much value is actually created in the other country, and how much of the profit is being taxed there. Off course, most companies are reticent when it comes to providing detailed information on this, and where such information is available, as it is the case in BASF, who provides a very detailed overview on its taxation payments (BASF annual report 2013), then they usually have nothing to hide, as BASF's almost exact correspondence between marginal and effective tax rate shows (α=0.004 percent) What can be done however is to compare companies with a high difference in *effective* and marginal *tax rate*, and compare them with known cases of tax avoidance.

One taxation loophole that has been discovered by journalists in 2013 is to shift earnings from Germany to certain communities in Belgium such as Antwerp, where the marginal tax rate is very low, by charging fictitious interest on the equity provided to the companies. These fictitious interests are then tax deductible and lead effectively to a lower tax rate. Two companies that have been using this loophole are Volkswagen and Bayer (Spiegel 2013) – both of them who pay up to 10% less in taxes than they would be required to (see Chart 2). In the case of Volkswagen the share of dividends earned is with a range of 11.5 up to 55.6 percent also unusually high, which shows that the company is putting an effort into not displaying where a major share of its income comes from.

Thus one conclusion from these results for regulators might be to take companies with a high percentage of dividends received from earnings before taxes, and investigate them further.

6. Conclusion

As was stated in the beginning of this paper, the purpose of this work project was to verify the statement by the German minister of finance, Mr. Schäuble, if German companies pay their required share of tax by the law, and analyze possible deviations.

From the final sample of the publicly listed German companies the following conclusions were drawn:

First, corporations when observed as a group in Germany do on average have a lower *effective* than *statutory tax rate*.

Second, in contradiction to the average, the technology sector does have a higher *effective* than *statutory tax rate*.

Third, unlike the debt ratio and the isolated interest, the impact of dividends earned is significant on the *effective* minus *statutory tax rates'* explanation.

The major limitations to this work project were that tax payments are based on different tax legislation rooted in the German GAAP thus making the figures less comparable. A second limitation was the fact that the figures analyzed in the consolidated annual reports, just present an aggregated overview of numerous associated companies and subsidiaries.

Thus the main suggestion for future research is to take the individual accounts for each company in the group, associated ones as well as full subsidiaries, and analyze the effective tax rate it paid. This might provide some further insight on where the German mother is saving taxes through internationalization of the company. In line with this another interesting question to analyze, is the effect on the effective tax rate for the whole group, of opting for paying taxes on a group base, given corporations usually will exercise this right of choice, if it provides an advantage.

7. References

[1]. Bergin Tom. 2013. “Das irische Model. Wie SAP Steuern spart.“ [online], available: http://www.n-tv.de/wirtschaft/Das-Geld-der-gruenen-Insel-Das-Steuersparmodell-von-SAP-article11456186.html

[2]. Bilanzrechtsmodernisierungsgesetz-Referententwurf. 2007. “Referentenentwurf eines Gesetzes zur Modernisierung des Bilanzrechts.“ German Ministery of Law

[3]. Brooks, Chris. 2008. *Introductory Econometrics for Finance*. Cambride: Cambridge University Press.

[4]. Cobham, Alex. 2005. “Tax evasion, tax avoidance and development finance.” University of Oxford Working Paper 129.

[5]. Deusche Böse. 2014. “The index world: DAX Family”. [online], available: http://deutsche-boerse.com/dbg/dispatch/en/ki*h*r/dbg_nav/about_us/10_Deutsche_Boerse_Group/32_Brands/05_DAX-family.

[6]. Drucker, Jesse. 2006. “Minding the gap: IRS looks closer to profit disparity.” The Wall Street Journal. November 27, C1.

[7]. Fama, Eugene, and Kenneth French. 1998. “Taxes, financing costs and firm value” *Journal of Finance*, Vol. 53: 819-843.

[8]. Financial Times. 2014. “Hopes of a bipartisan deal on US tax inversions fade.” [online], available: http://www.ft.com/intl/cms/s/0/b805c178-3bb9-11e4-885d-00144feabdc0.html#axzz3D4iaRvjv.

[9]. Frank, Mary Margaret, Luann J. Lynch, and Sonja Olhoft Rego.2009. Tax Reporting Aggressiveness and Its Relation to Aggressive Financial Reporting. *Accounting Review*, Vol. 84, No. 2.

[10]. Fullerton, Don. 1983. “Which effective tax rate?” National Buereau of economic research Working Paper 1123.

[11]. Graham, John R. 1996. "Debt and the marginal tax rate." *Journal of Financial Economics* 41.1: 41-73.

[12]. Graham, John R. 2009. Tax Shelters and Corporate Debt Policy. [online], available: http://taxblog.com/JGraham/tax-shelters-and-corporate-debt-policy/.

[13]. Graham, John R., and Alan L. Tucker. 2006. "Tax shelters and corporate debt policy."*Journal of Financial Economics* 81.3: 563-594.

[14]. Graham, John R., Jana S. Raedy, and Douglas A. Shackelford. 2012. "Research in accounting for income taxes." *Journal of Accounting and Economics* 53.1: 412-434.

[15]. Gross, Daniel. 2003. “Higher profits, lower taxes. It’s not just Enron that’s been dodging corporate income taxes.” (Posted February 14, on http://slate.msn.com/id/2078581/).

[16]. Handelsblatt. 2013. *Die Steuertricks von SAP*, [online], available: http://www.handelsblatt.com/unternehmen/it-medien/ableger-in-irland-die-steuertricks-von-sap/8858772.html .

[17]. Handelsblatt (2014) *Letzte Hoffnung Bundesgerichtshof*, [online], available: http://www.handelsblatt.com/finanzen/recht-steuern/steuern/urteil-gegen-uli-hoeness-letzte-hoffnung-bundesgerichtshof/9613938.html.

[18]. Huizinga, Harry P., and Johannes Voget. 2009. “International Taxation and the Direction and Volume of Cross-Border M&A’s.” *Journal of Financial Economics*, Vol. LXIV, No. 3.

[19]. Kay, J.A. .1980. "The anatomy of tax avoidance", in*: Income Distribution: The Limits to Redistribution*; Proceedings of the 31st Symposium of the Colston Research Society, University of Bristol.
[20]. Kirchler, Erich, Boris Maciejovsky, and Friedrich Schneider. 2001. "Everyday representations of tax avoidance, tax evasion, and tax flight: Do legal difference matter?" Humboldt University of Berlin Discussion Paper 2001,43.
[21]. Kraft, Cornelia, Gerhard Kraft. 2009. *Grundlagen der Unternehmensbesteuerung*. Wiesbaden: GWV Fachverlage GmbH.
[22]. Lee, Kiat Bee Jimmy, Beng Wee Goh, Chee Yeow Lim and Terry Shevlin. 2013. "The effect of corporate tax avoidance on the cost of equity." Research collection school of Accountancy. Available at: http://ink.library.smu.edu.sg/soa_research/1212/
[23]. Murray, Alan. 2002. "Narrowing tax gap should be priority of next congress." The Wall Street Journal. October 8, A4.
[24]. Parisi, Francesco. 2004. "Positive, normative and functional schools in law and economics." *European Journal of Law and Economics,* 18.3: 259-272.
[25]. Sassen, Remmer, Patrick Velte, and Stefan Weber. 2008. "Bilanzrechtsmodernisierung: Wandel von einer "offenen" zu einer "stillen" Bilanzpolitik." *Zeitschrift für das Gesamte Kreditwesen, Vol. N* 61.6: 248.
[26]. Slemrod, Joel, and Shlomo Yitzhaki. 2002. "Tax avoidance, evasion, and administration" in *Handbook of Public Economics.* Amsterdam: Elsevier (North Holland Publishing Co.).
[27]. Spiegel. 2013. *Fiktive Zinsen: VW und BASF nutzen belgisches Steuerschlupfloch*. [online], available: http://www.spiegel.de/wirtschaft/unternehmen/steuern-vw-basf-bayer-und-henkel-druecken-abgaben-in-belgien-a-900415.html.
[28]. Tyler, Tom R. 2006. *Why people obey the law*. Princeton: Princeton University Press.
[29]. Zinn, Benedikt, and Christoph Spengel. 2012. "Book-tax conformity: Empirical evidence from Germany". ZEW Discussion Paper No. 12-051.

8. Appendices

Appendix 1: Company taxation in Germany

all Numbers in T€	Multiplier				
	300	350	400	420	490
EBT	100	100	100	100	100
Gewerbesteuer	10,5	12,25	14	14,7	17,15
Körperschaftssteuer	15	15	15	15	15
Solidaritätszuschlag	0,825	0,825	0,825	0,825	0,825
Earnings after Taxes	73,675	71,925	70,175	69,475	67,025
Burden of Taxation	26,325	28,075	29,825	30,525	32,975

Appendix 2: Average of percentages

$$\frac{a+b}{c+d} \neq \frac{\frac{a}{c}+\frac{b}{d}}{2}$$

Appendix 3: Listed companies in the DAX, MDAX, and SDAX

DAX	**MDAX**	**SDAX**
Adidas	Aareal Bank	Air Berlin
Allianz	Airbus Group (former EADS)	Alstria office REIT
BASF	Aurubis	Amadeus Fire
Bayer	Axel Springer	Balda
Beiersdorf	BayWa	Bauer
BMW	Bilfinger	Bertrandt
Commerzbank	Brenntag	Biotest
Continental	Celesio	C.A.T. Oil
Daimler	Deutsche EuroShop	Centrotec Sustainable
Deutsche Bank	Deutsche Wohnen	CeWe Color
Deutsche Börse	Dürr	comdirect bank
Deutsche Lufthansa	ElringKlinger	CTS Eventim
Deutsche Post	Fielmann	Delticom
Deutsche Telekom	Fraport	Deutz AG
E.ON	Fuchs Petrolub	Deutsche Beteiligungs
Fresenius	GAGFAH	DIC Asset
Fresenius Medical Care	GEA Group	Gesco
HeidelbergCement	Gerresheimer	GfK
Henkel	Gerry Weber International	Grammer
Infineon Technologies	Gildemeister	Grenkeleasing

K+S	GSW Immobilien	H&R WASAG
Lanxess	Hannover Re	Hamborner
Linde	Hochtief	HHLA
Merck	Hugo Boss	Hawesko Holding
Munich Re	Kabel Deutschland	Heidelberger Druckmaschinen
RWE	Klöckner	Highlight Communications
SAP	Krones	Hornbach Holding
Siemens	KUKA	Indus Holding
ThyssenKrupp	LEG Immobilien	Jungheinrich
Volkswagen Group	Leoni	Koenig & Bauer
	MAN	KWS Saat
	Metro	MLP
	MTU	MVV Energie
	Norma Group	Patrizia Immobilien
	ProSiebenSat.1 Media	Praktiker
	Puma	Prime Office
	Rational	RTL Group
	Rheinmetall	SAF-Holland
	Rhön-Klinikum	Schaltbau
	SGL Carbon	SKW Stahl-Metallurgie Holding
	Salzgitter	Sixt
	Sky Deutschland	SMT Scharf
	Stada	Ströer Out-of-Home Media
	Südzucker	TAKKT
	Symrise	Tipp24
	TAG	Tom Tailor
	Talanx	Vossloh
	TUI	VTG
	Wacker Chemie	Wacker Neuson
	Wincor Nixdorf	Zooplus

Appendix 4: Listed companies in the TecDAX

TecDAX			
Aixtron	Drillisch	Nemetscheck	SMA Solar Technology
BB Biotech	Evotec	Nordex	Software AG
Bechtle	Freenet	O2	Stratec Biomedical Systems
Cancom AG	Jenoptik	Pfeiffer Vacuum	United Internet
Carl Zeiss Meditec	Kontron	PSI AG	Wirecard
CompuGroup Medical	LPKF Laser &	Qiagen	XING
Dialog Semiconductor	MANZ	QSC	
Drägerwerk	MorphoSys	Sartorius	

Appendix 5 Table 1: Regression statistics for RQ 1

Regression statistics	
Multiple R	0,07553379
R Square	0,00570535
Adjusted R Square	0,00337133
Standard error	12,1623461
Observations	428

ANOVA

	df	*SS*	*MS*	*F*	*F crit*
Regression	1	361,58612	361,58612	2,44442679	0,11868549
Residue	426	63015,0544	147,922663		
Total	427	63376,6405			

	Coefficients	*Std error*	*t-Stat*	*P-Value*	*Lower 95%*	*Upper 95%*
Intercept	2,30791443	2,47678499	0,93181864	0,35195804	-2,5603261	7,17615492
X Variable 1	-0,056861	0,03636856	-1,5634663	0,11868549	-0,1283452	0,01462314

Appendix 6 Table 2: Regression statistics for RQ 2

Regression statistics	
Multiple R	0,106836638
R Square	0,011414067
Adjusted R Square	0,009093443
Standard error	12,12738097
Observations	428

ANOVA

	df	*SS*	*MS*	*F*	*F crit*
Regression	1	723,3852304	723,3852304	4,918533072	0,027096929
Residue	426	62653,25528	147,0733692		
Total	427	63376,64051			

	Coefficients	*Std error*	*t-Stat*	*P-Value*	*Lower 95%*	*Upper 95%*
Intercept	-1,962445801	0,629470086	-3,117615665	0,001946776	-3,199699647	-0,725191954
X Variable 1	0,016750316	0,007552752	2,217776606	0,027096929	0,001905018	0,031595615

Appendix 7 Table 3: Regression statistics for multiple regression on RQ 1 & 2

Regression statistics	
Multiple R	0,14093754
R Square	0,01986339
Adjusted R Square	0,01525098
Standard error	12,0896422
Observations	428

ANOVA

	df	*SS*	*MS*	*F*	*F crit*
Regression	2	1258,87494	629,437472	4,30651237	0,01407359
Residue	425	62117,7656	146,159448		
Total	427	63376,6405			

	Coefficients	*Std error*	*t-Stat*	*P-Value*	*Lower 95%*	*Upper 95%*
Intercept	2,59994213	2,46479885	1,05482933	0,29210266	-2,2447715	7,44465575
X Variable 1	-0,0699291	0,03653387	-1,914089	0,05628008	-0,1417386	0,00188049
X Variable 2	1,88528837	0,76089566	2,4777226	0,01361004	0,38970119	3,38087555

Appendix 8 Table 4: Regression statistics for RQ 3

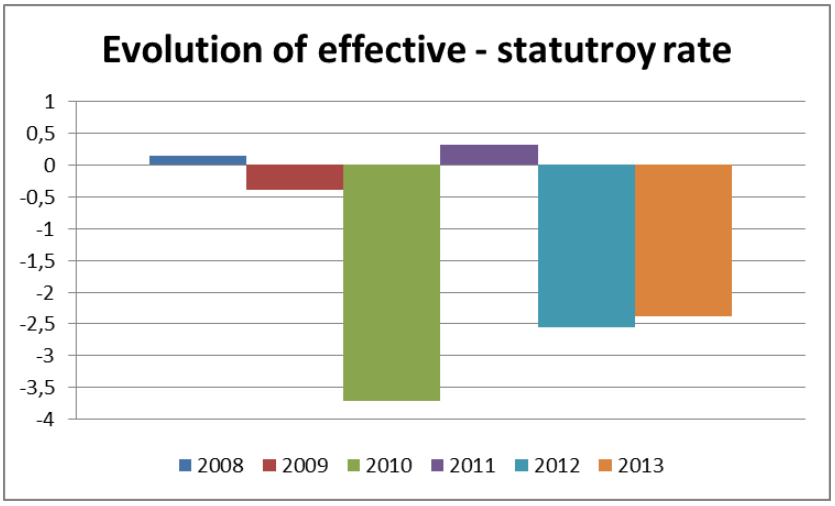
Regression statistics	
Multiple R	0,15060257
R Square	0,02268113
Adjusted R Square	0,02038696
Standard error	12,0580741
Observations	428

ANOVA

	df	*SS*	*MS*	*F*	*F crit*
Regression	1	1437,45408	1437,45408	9,88639785	0,00178158
Residue	426	61939,1864	145,397151		
Total	427	63376,6405			

	Coefficients	*Std error*	*t-Stat*	*P-Value*	*Lower 95%*	*Upper 95%*
Intercept	-1,1340084	0,59165573	-1,9166693	0,05594868	-2,2969363	0,02891951
X Variable 1	-0,0595006	0,01892353	-3,1442643	0,00178158	-0,0966957	-0,0223055

Appendix 9: Evolution



Appendix 10

Company	**Year**	**EBIT**	**EBT**	**Taxes**	**Effective Tax Rate**	**Statutory Tax Rate**	**Diff.**	**Dividends**	**Debt Ratio**
figures in mio € if not marked as %									
Aareal Bank	2013	165	198	62	31%	31%	0%	0	96%
Aareal Bank	2012	169	176	52	30%	31%	-2%	0	96%
Aareal Bank	2011	144	185	52	28%	31%	-3%	1	96%
Aareal Bank	2010	123	134	40	30%	31%	-1%	5	97%
Aareal Bank	2009	133	87	20	23%	31%	-8%	1	97%
Aareal Bank	2008	149	110	45	41%	31%	10%	7	97%
Adidas	2013	1202	1134	344	30%	27%	3%	102	53%
Adidas	2011	1011	927	257	28%	27%	1%	147	53%
Adidas	2012	994	851	327	38%	27%	11%	86	54%

continue

continued

Adidas	2010	894	806	238	30%	27%	3%	89	57%
Adidas	2009	508	358	113	32%	27%	5%	7	58%
Adidas	2008	1070	904	260	29%	27%	2%	5	64%
Allianz	2012	11259	8719	3161	36%	33%	3%	-59	92%
Allianz	2010	8932	7173	1964	27%	33%	-6%	-102	93%
Allianz	2013	13014	9644	3300	34%	33%	1%	-15	93%
Allianz	2011	9926	4846	2042	42%	33%	9%	-35	93%
Allianz	2009	9737	5190	540	10%	33%	-23%	-232	93%
Allianz	2008	6978	5473	1287	24%	33%	-9%	79	96%
Amadeus Fire AG	2012	20	20	7	34%	32%	2%	0,39	31%
Amadeus Fire AG	2011	22	23	7	32%	32%	0%	-0,76	32%
Amadeus Fire AG	2010	19	19	6	31%	32%	-1%	-0,93	33%
Amadeus Fire AG	2009	16	16	5	31%	32%	-1%	-1,04	33%
Amadeus Fire AG	2013	23	23	7	31%	32%	-1%	-0,88	34%
Amadeus Fire AG	2008	15	16	6	36%	32%	4%	-1,04	39%
Aurubis	2008	284	243	72	30%	32%	-3%	0,708	86%
Aurubis	2012	586	515	153	30%	32%	-3%	6	89%
Aurubis	2011	532	421	98	23%	32%	-9%	706	90%
Axel Springer	2010	338	378	104	27%	30%	-3%	-8,2	57%
Axel Springer	2011	408	421	132	31%	30%	1%	9,5	60%
Axel Springer	2013	269	267	88	33%	30%	3%	25,7	60%
Axel Springer	2012	244	284	93	33%	30%	3%	5,9	61%
Axel Springer	2009	610	398	84	21%	30%	-9%	212	61%
Axel Springer	2008	1089	688	117	17%	30%	-13%	401	64%
BASF	2013	7723	6713	1540	23%	29%	-6%	74	58%
BASF	2011	6742	8970	2367	26%	29%	-3%	966	61%
BASF	2012	6742	5977	910	15%	29%	-14%	75	62%
BASF	2010	7761	7373	2299	31%	29%	2%	137	64%
BASF	2008	6463	5976	2671	45%	29%	16%	74	65%
BASF	2009	3677	3079	1424	46%	29%	17%	112	66%
Bauer AG	2008	167	147	39	27%	28%	-1%	3,12	66%
Bauer AG	2009	84	60	17	29%	28%	1%	3,54	68%
Bauer AG	2010	88	57	18	31%	28%	3%	1,44	69%
Bauer AG	2012	72	39	13	34%	28%	6%	10,30	70%
Bauer AG	2011	82	48	13	28%	28%	0%	-0,69	71%
Bayer	2013	4934	4207	1021	24%	32%	-8%	-16	60%
Bayer	2009	3006	1870	511	27%	32%	-5%	-48	63%
Bayer	2010	2730	1721	411	24%	32%	-9%	-56	63%
Bayer	2011	4149	3363	891	26%	32%	-6%	-45	64%
Bayer	2012	3928	3176	723	23%	32%	-10%	-18	64%
Bayer	2008	3544	2356	636	27%	32%	-5%	-62	69%
Baywa AG	2009	102	75	16	21%	33%	-12%	13,40	73%
Baywa AG	2010	109	87	20	23%	33%	-10%	20,02	74%

continue

continued

Baywa AG	2008	150	104	27	26%	33%	-7%	11,58	75%
Baywa AG	2011	139	98	28	29%	33%	-4%	12,04	78%
Baywa AG	2012	168	123	5	4%	33%	-29%	18,56	81%
Baywa AG	2013	190	168	47	28%	33%	-5%	32,11	82%
Beiersdorf	2012	698	713	259	36%	32%	4%	249	41%
Beiersdorf	2013	820	815	272	33%	32%	1%	441	41%
Beiersdorf	2009	587	583	203	35%	32%	3%	265	43%
Beiersdorf	2010	583	440	181	41%	32%	9%	270	43%
Beiersdorf	2011	431	553	227	41%	32%	9%	165	43%
Beiersdorf	2008	797	822	255	31%	32%	-1%	237	45%
Bertrand AG	2013	81	80	23	29%	27%	1%	-138,00	41%
Bertrand AG	2009	33	33	8	26%	27%	-2%	35,00	43%
Bertrand AG	2010	44	44	13	29%	27%	2%	14,00	43%
Bertrand AG	2012	75	74	22	30%	27%	3%	38,00	43%
Bertrand AG	2011	60	60	18	30%	27%	3%	6,00	44%
Bertrand AG	2008	51	51	15	30%	27%	2%	89,00	54%
Bilfinger	2013	287	244	72	29%	31%	-2%	32,5	67%
Bilfinger	2012	381	347	102	29%	31%	-2%	31	70%
Bilfinger	2011	361	331	109	33%	31%	2%	28,7	77%
Bilfinger	2010	341	301	93	31%	31%	0%	22,1	77%
Bilfinger	2009	250	214	71	33%	31%	2%	17,3	81%
Bilfinger	2008	298	284	79	28%	31%	-3%	15,1	83%
Biotest AG	2012	45	37	13	37%	29%	8%	1,00	46%
Biotest AG	2013	54	48	16	33%	29%	4%	1,00	48%
Biotest AG	2011	42	29	10	34%	29%	6%	0,54	49%
Biotest AG	2010	43	28	9	31%	29%	2%	0,30	52%
Biotest AG	2008	59	45	13	28%	29%	-1%	0,00	58%
Biotest AG	2009	62	49	17	35%	29%	6%	0,30	58%
BMW	2013	7986	7913	2573	33%	33%	0%	398	74%
BMW	2012	8275	7803	2692	34%	33%	2%	271	77%
BMW	2011	8018	7383	2476	34%	33%	1%	162	78%
BMW	2010	5111	4853	1610	33%	33%	0%	98	79%
BMW	2008	921	351	21	6%	33%	-27%	26	80%
BMW	2009	289	413	203	49%	33%	16%	36	80%
Brenntag	2013	556	495	156	32%	33%	-1%	4,6	63%
Brenntag	2012	574	478	141	29%	33%	-4%	3	66%
Brenntag	2010	409	232	85	37%	33%	4%	4,7	68%
Brenntag	2011	546	420	140	33%	33%	0%	4,2	69%
Celesio	2010	566	409	144	35%	31%	5%	6,9	70%
Celesio	2011	237	104	98	94%	31%	64%	4,3	71%
Celesio	2013	407	269	98	36%	31%	6%	11,5	72%
Celesio	2012	370	215	105	49%	31%	18%	8,1	73%

continue

continued

Centrotec Sustainable AG	2013	36	31	7	23%	31%	-8%	0,51	55%
Centrotec Sustainable AG	2010	36	35	9	26%	31%	-5%	4,29	60%
Centrotec Sustainable AG	2009	29	13	8	59%	31%	28%	-9,82	65%
Centrotec Sustainable AG	2008	32	26	7	28%	31%	-3%	2,20	66%
Cewe Stiftung & CO KGaA	2008	12	11	3	24%	31%	-7%	-0,20	57%
Cewe Stiftung & CO KGaA	2013	29	28	5	20%	31%	-11%	0,16	58%
Cewe Stiftung & CO KGaA	2010	28	26	12	44%	31%	14%	-0,30	58%
Cewe Stiftung & CO KGaA	2011	30	29	10	34%	31%	3%	0,02	58%
Cewe Stiftung & CO KGaA	2012	29	27	7	27%	31%	-4%	-0,07	58%
Cewe Stiftung & CO KGaA	2009	19	17	9	55%	31%	24%	-0,26	58%
Comdirekt Bank AG	2009	85	76	19	25%	27%	-2%	0,00	95%
Comdirekt Bank AG	2012	94	94	19	21%	27%	-6%	0,00	95%
Comdirekt Bank AG	2010	81	81	21	26%	27%	-1%	0,00	95%
Comdirekt Bank AG	2008	78	83	22	26%	27%	-1%	0,00	96%
Comdirekt Bank AG	2013	80	80	19	24%	27%	-3%	0,00	96%
Continental	2013	3264	2459	450	18%	32%	-14%	37,6	66%
Continental	2012	3186	2687	698	26%	32%	-6%	63,4	68%
CTS Inventim AG & CO KGaA	2009	71	71	23	33%	32%	1%	0,15	69%
CTS Inventim AG & CO KGaA	2008	50	53	18	33%	32%	1%	0,22	70%
CTS Inventim AG & CO KGaA	2013	111	105	35	34%	32%	2%	-0,89	73%
CTS Inventim AG & CO KGaA	2012	98	90	27	30%	32%	-2%	-1,92	75%
CTS Inventim AG & CO KGaA	2011	72	67	21	31%	32%	0%	0,36	76%
CTS Inventim AG & CO KGaA	2010	71	69	20	28%	32%	-4%	-0,48	78%
Daimler	2012	8820	8116	1286	16%	31%	-15%	1198	73%
Daimler	2010	7274	6628	1954	29%	31%	-1%	-148	73%
Daimler	2011	8755	8449	2420	29%	31%	-2%	273	73%
Daimler	2013	10815	10139	1419	14%	31%	-17%	3345	75%
Daimler	2008	2730	2795	1091	39%	31%	9%	-998	76%
Deusche Börse	2010	528	420	25	6%	26%	-20%	12,2	98%
Deusche Börse	2008	1508	1469	419	28%	26%	3%	5,8	98%
Deusche Börse	2009	638	558	87	16%	26%	-10%	-4,8	98%

continue

continued

Deusche Börse	2013	739	668	173	26%	26%	0%	9,3	98%
Deusche Börse	2012	969	837	167	20%	26%	-6%	-4,3	99%
Deusche Börse	2011	1152	1150	279	24%	26%	-1%	3,6	99%
Deutsche Bank	2013	4680	1456	775	53%	32%	21%	369	97%
Deutsche Bank	2012	5333	814	498	61%	32%	29%	163	97%
Deutsche Bank	2010	5985	3975	1645	41%	32%	9%	-2004	97%
Deutsche Bank	2011	5601	5390	1064	20%	32%	-12%	-264	98%
Deutsche Euroshop	2009	111	40	6	14%	32%	-18%	1,314	57%
Deutsche Euroshop	2008	98	87	18	21%	32%	-11%	0,46	57%
Deutsche Euroshop	2013	166	188	17	9%	32%	-23%	43,692	58%
Deutsche Euroshop	2012	181	103	-19	-18%	32%	-51%	15,746	63%
Deutsche Lufthansa	2008	976	730	178	24%	32%	-8%	20	69%
Deutsche Lufthansa	2013	849	545	219	40%	32%	8%	125	79%
Deutsche Post	2012	2665	2209	447	20%	32%	-12%	2	65%
Deutsche Post	2011	2436	1659	393	24%	32%	-8%	60	71%
Deutsche Post	2013	2861	2572	361	14%	32%	-18%	2	72%
Deutsche Post	2010	1835	2824	194	7%	32%	-25%	56	73%
Deutsche Telekom	2008	7040	3452	1428	41%	32%	9%	-388	68%
Deutsche Telekom	2010	5505	2695	935	35%	32%	3%	-57	70%
Deutsche Telekom	2011	5563	3019	2349	78%	32%	46%	-73	71%
Deutsche Telekom	2009	6012	2655	1782	67%	32%	35%	24	72%
Deutsche Telekom	2013	4930	2128	924	43%	32%	11%	-71	80%
DIC Asset AG	2013	69	18	2	12%	32%	-20%	1,56	70%
DIC Asset AG	2010	75	18	2	14%	32%	-18%	7,81	71%
DIC Asset AG	2012	69	14	2	14%	32%	-18%	1,78	72%
DIC Asset AG	2011	66	13	2	17%	32%	-15%	2,39	72%
DIC Asset AG	2008	97	30	5	18%	32%	-14%	8,76	76%
DIC Asset AG	2009	80	19	3	17%	32%	-15%	7,48	76%
DMG Mori	2013	148	135	42	31%	32%	-1%	0,86	47%
DMG Mori	2011	113	67	21	32%	32%	0%	0,47	53%
DMG Mori	2012	133	120	38	31%	32%	-1%	0,92	56%
DMG Mori	2009	32	7	2	34%	32%	2%	0,69	67%
DMG Mori	2010	45	7	2	34%	32%	2%	-0,40	70%
DMG Mori	2008	158	127	46	36%	32%	4%	0,51	73%
Duerr	2008	73	46	13	27%	28%	0%	3,04	69%
Duerr	2013	203	185	44	24%	28%	-4%	0,594	75%
Duerr	2012	177	148	36	25%	28%	-3%	0,452	77%
Duerr	2011	106	86	22	25%	28%	-2%	0,58	78%
E.ON	2010	11247	8227	1946	24%	31%	-8%	782	73%
E.ON	2009	14266	11621	2976	26%	31%	-6%	717	74%
E.ON	2013	5165	3213	703	22%	31%	-9%	-220	74%
E.ON	2008	4934	2455	834	34%	31%	3%	454	78%
ElringKlinger	2010	116	94	25	27%	28%	-1%	0	49%

continue

continued

ElringKlinger	2013	165	149	38	25%	28%	-2%	24,7	51%
ElringKlinger	2012	139	124	34	28%	28%	0%	19,1	52%
ElringKlinger	2011	151	137	39	29%	28%	1%	0,026	52%
ElringKlinger	2009	63	49	15	29%	28%	2%	0,01	60%
ElringKlinger	2008	76	60	17	28%	28%	0%	0,042	64%
Evonic Industries	2013	1021	836	220	26%	33%	-6%	453	57%
Evonic Industries	2012	1815	1556	453	29%	33%	-4%	365	60%
Evonic Industries	2011	1837	1543	451	29%	33%	-3%	101	65%
Evonic Industries	2010	1339	975	175	18%	33%	-15%	848	74%
Evonic Industries	2009	815	412	94	23%	33%	-10%	620	75%
Evonic Industries	2008	812	362	128	35%	33%	3%	308	77%
Fielmann	2010	172	170	49	29%	32%	-3%	0	24%
Fielmann	2012	181	181	51	28%	32%	-4%	0	24%
Fielmann	2011	174	173	48	28%	32%	-5%	0	24%
Fielmann	2009	165	162	48	30%	32%	-3%	0	25%
Fielmann	2013	200	199	57	29%	32%	-4%	0	26%
Fielmann	2008	166	162	48	30%	32%	-3%	0	29%
Fraport	2008	359	297	101	34%	32%	2%	0,1	62%
Fraport	2013	528	341	105	31%	32%	-1%	-13,6	68%
Fraport	2011	497	347	97	28%	32%	-4%	11,5	69%
Fraport	2012	496	364	113	31%	32%	-1%	11,7	70%
Fraport	2010	431	279	7	3%	32%	-29%	7	70%
Fraport	2009	290	201	44	22%	32%	-10%	0,1	71%
Fuchs Petrolub	2013	312	311	92	30%	31%	-1%	13,5	27%
Fuchs Petrolub	2012	293	291	84	29%	31%	-2%	14,2	30%
Fuchs Petrolub	2011	264	260	77	30%	31%	-1%	3,1	34%
Fuchs Petrolub	2010	250	245	74	30%	31%	-1%	8,3	39%
Fuchs Petrolub	2009	180	173	52	30%	31%	-1%	7,2	48%
Fuchs Petrolub	2008	172	163	53	32%	31%	1%	2,9	55%
GEA Group	2010	236	171	40	23%	31%	-8%	240,9	63%
GEA Group	2013	525	352	70	20%	31%	-11%	267,4	64%
GEA Group	2011	455	399	86	22%	31%	-10%	221,3	65%
GEA Group	2009	268	209	48	23%	31%	-8%	179,6	65%
GEA Group	2012	454	227	13	6%	31%	-26%	256,2	66%
GEA Group	2008	504	459	110	24%	31%	-7%	327,6	72%
Gerresheimer	2010	95	61	14	23%	31%	-8%	16,9	64%
Gerresheimer	2012	131	99	30	31%	31%	-1%	55	66%
Gerresheimer	2011	109	73	18	25%	31%	-6%	-11,3	66%
Gerresheimer	2009	60	20	13	65%	31%	34%	0,036	67%
Gerresheimer	2013	133	99	30	31%	31%	-1%	44,5	69%
Gerresheimer	2008	61	17	13	74%	31%	43%	0,329	72%
Gerry Weber International AG	2011	100	94	31	32%	32%	1%	0	24%

continue

continued

Gerry Weber International AG	2012	116	114	35	31%	32%	-1%	0	25%
Gerry Weber International AG	2013	106	103	32	31%	32%	-1%	0	26%
Gerry Weber International AG	2010	83	83	28	33%	32%	2%	0	36%
Gerry Weber International AG	2008	63	57	18	31%	32%	0%	0	39%
Gerry Weber International AG	2009	71	66	23	35%	32%	4%	0	46%
Gesco AG	2012	37	34	11	33%	33%	0%	0,06	55%
Gesco AG	2013	32	29	9	32%	33%	-1%	-0,06	57%
Gesco AG	2011	39	36	11	31%	33%	-2%	0,07	58%
Gesco AG	2010	27	24	8	32%	33%	-1%	0,06	60%
Gesco AG	2009	16	14	4	32%	33%	-1%	-0,03	62%
Gesco AG	2008	39	35	11	32%	33%	-1%	-0,05	64%
GFK SE	2011	139	126	37	30%	31%	-2%	3,24	59%
GFK SE	2012	129	108	44	41%	31%	9%	1,85	61%
GFK SE	2010	141	125	41	33%	31%	1%	3,49	61%
GFK SE	2009	89	75	15	20%	31%	-12%	3,82	66%
GFK SE	2008	129	113	31	27%	31%	-4%	3,61	67%
Grammer AG	2012	49	38	12	30%	29%	1%	8,90	66%
Grammer AG	2013	58	42	13	30%	29%	1%	6,50	71%
Hamburger Hafen und Logistik AG	2008	355	324	107	33%	32%	1%	0,11	64%
Hamburger Hafen und Logistik AG	2011	207	175	56	32%	32%	0%	0,34	65%
Hamburger Hafen und Logistik AG	2009	160	126	37	29%	32%	-3%	0,16	66%
Hamburger Hafen und Logistik AG	2013	158	117	37	31%	32%	-1%	-0,55	67%
Hamburger Hafen und Logistik AG	2010	193	159	45	28%	32%	-4%	0,21	67%
Hamburger Hafen und Logistik AG	2012	186	153	42	27%	32%	-5%	-4,03	68%
Hannover Rueck SE	2012	1394	1289	364	28%	32%	-4%	10,42	88%
Hannover Rueck SE	2013	1129	1102	163	15%	32%	-17%	12,54	89%
Hannover Rueck SE	2011	841	742	65	9%	32%	-23%	3,09	90%
Hannover Rueck SE	2010	1178	1089	257	24%	32%	-8%	3,86	90%
Heidelberg Cement	2012	1239	592	152	26%	30%	-4%	44	55%
Heidelberg Cement	2011	1377	794	238	30%	30%	0%	51,5	57%
Heidelberg Cement	2013	1650	1081	233	22%	30%	-8%	38,7	57%
Heidelberg Cement	2008	1827	998	327	33%	30%	3%	46,913	71%
Henkel VZ	2013	2285	2172	547	25%	31%	-6%	0	48%
Henkel VZ	2012	2199	2018	492	24%	31%	-7%	1	52%

continue

continued

Henkel VZ	2011	1857	1702	419	25%	31%	-7%	0	53%
Henkel VZ	2010	1723	1552	409	26%	31%	-5%	1	55%
Henkel VZ	2009	1080	885	257	29%	31%	-2%	-4	59%
Henkel VZ	2008	779	1627	394	24%	31%	-7%	1123	60%
Hochtief	2010	715	757	210	28%	33%	-5%	0,222705	80%
Hochtief	2009	525	600	192	32%	33%	-1%	0,226215	82%
Hochtief	2008	311	497	173	35%	33%	2%	0,305987	84%
Hochtief	2013	859	800	254	32%	33%	-1%	0,210412	85%
Hugo Boss	2013	456	433	100	23%	28%	-5%	0,319	52%
Hugo Boss	2012	432	408	98	24%	28%	-5%	-3,315	61%
Hugo Boss	2011	349	382	91	24%	28%	-5%	-0,172	66%
Hugo Boss	2010	264	249	60	24%	28%	-4%	-4,533	75%
Hugo Boss	2009	158	137	33	24%	28%	-5%	0,576	81%
Hugo Boss	2008	191	148	36	24%	28%	-4%	-16,129	83%
Indus Holding AG	2013	114	94	30	32%	32%	0%	0,10	56%
Indus Holding AG	2012	106	85	30	35%	32%	3%	0,20	61%
Indus Holding AG	2011	112	89	33	37%	32%	5%	0,10	63%
Indus Holding AG	2010	101	74	25	34%	32%	2%	0,16	68%
Indus Holding AG	2009	55	27	12	45%	32%	13%	0,34	74%
Indus Holding AG	2008	90	60	27	45%	32%	13%	0,69	74%
Jungheinrich	2013	172	150	43	29%	32%	-3%	2,398	70%
Jungheinrich	2012	163	156	44	28%	32%	-4%	6,25	71%
Jungheinrich	2008	122	121	45	37%	32%	5%	-405	71%
Jungheinrich	2011	146	148	43	29%	32%	-3%	2,112	72%
K+S	2012	804	763	197	26%	31%	-5%	5,2	48%
K+S	2011	906	887	231	26%	31%	-5%	9,6	49%
K+S	2008	1343	1199	328	27%	31%	-4%	2,519	51%
K+S	2010	715	599	141	24%	31%	-8%	4,1	52%
K+S	2013	656	549	133	24%	31%	-7%	6,6	55%
K+S	2009	238	126	30	23%	31%	-8%	0,921	60%
Krones	2008	158	156	50	32%	26%	5%	1,564	57%
Krones	2013	173	170	50	30%	26%	3%	-3,355	57%
Krones	2012	94	99	31	31%	26%	5%	2,137	60%
Krones	2011	71	75	31	41%	26%	15%	1,422	61%
KWS Saat AG	2011	141	116	37	32%	29%	2%	0,01	44%
KWS Saat AG	2008	78	75	25	33%	29%	4%	0,18	44%
KWS Saat AG	2010	117	110	26	24%	29%	-5%	-0,10	45%
KWS Saat AG	2009	82	77	25	32%	29%	3%	0,00	45%
KWS Saat AG	2012	152	142	50	35%	29%	6%	0,05	47%
KWS Saat AG	2013	138	126	46	36%	29%	7%	0,01	48%
Lanxess	2010	607	493	112	23%	32%	-10%	16	69%
Lanxess	2012	810	660	151	23%	32%	-10%	1	69%
Lanxess	2011	776	655	148	23%	32%	-10%	7	70%

continue

continued									
Lanxess	2008	322	246	63	26%	32%	-7%	21	70%
Lanxess	2009	149	32	-7	-22%	32%	-54%	9	72%
Leoni	2012	238	199	42	21%	31%	-10%	22	65%
Leoni	2013	163	131	25	19%	31%	-12%	0	66%
Linde	2010	1459	1399	335	24%	33%	-9%	68	60%
Linde	2011	1659	1619	375	23%	33%	-10%	76	60%
Linde	2012	2055	1734	393	23%	33%	-10%	13	61%
Linde	2013	2171	1794	364	20%	33%	-13%	16	61%
Linde	2009	1460	838	185	22%	33%	-11%	60	64%
Linde	2008	1703	1006	230	23%	33%	-10%	60	67%
Merck	2008	731	575	196	34%	31%	3%	0,1	39%
Merck	2009	621	486	110	23%	31%	-8%	3,5	43%
Merck	2013	1611	1389	180	13%	31%	-18%	1,5	47%
Merck	2012	964	709	130	18%	31%	-12%	0,6	52%
Merck	2011	1137	851	222	26%	31%	-5%	-1	53%
Merck	2010	1113	861	220	26%	31%	-5%	4,1	54%
Metro	2011	2113	1473	732	50%	31%	18%	42	81%
Metro	2010	2211	1630	694	43%	31%	11%	15	82%
Metro	2012	1395	810	709	88%	31%	56%	17	83%
Metro	2008	1985	1411	424	30%	31%	-1%	14	83%
Metro	2009	1681	1050	531	51%	31%	19%	15	83%
MLP AG	2010	47	47	13	28%	28%	-1%	1,27	72%
MLP AG	2009	42	40	12	31%	28%	3%	0,37	72%
MLP AG	2008	56	47	16	34%	28%	6%	0,74	72%
MLP AG	2011	17	19	7	35%	28%	6%	1,21	73%
MLP AG	2012	74	75	22	29%	28%	1%	0,96	74%
MLP AG	2013	33	33	8	23%	28%	-5%	0,90	76%
MTU Aero Engines	2013	320	265	92	35%	33%	2%	3,8	73%
MTU Aero Engines	2012	301	273	98	36%	33%	3%	14	74%
MTU Aero Engines	2011	286	232	73	31%	33%	-2%	2,6	76%
MTU Aero Engines	2010	267	227	85	37%	33%	4%	-0,6	76%
MTU Aero Engines	2009	247	208	67	32%	33%	-1%	-1,5	77%
MTU Aero Engines	2008	248	198	18	9%	33%	-24%	-1	81%
Münchner Rückversicherungs-Gesellschaft	2012	5349	4082	878	22%	33%	-11%	88	89%
Münchner Rückversicherungs-Gesellschaft	2013	4409	3450	108	3%	33%	-30%	7	90%
Münchner Rückversicherungs-Gesellschaft	2009	4721	3828	1264	33%	33%	0%	-123	90%
Münchner Rückversicherungs-Gesellschaft	2008	3834	2951	1372	46%	33%	14%	27	90%
continue									

continued

Münchner Rückversicherungs-Gesellschaft	2010	3978	1738	-692	-40%	33%	-73%	51	90%
Münchner Rückversicherungs-Gesellschaft	2011	1180	1264	552	44%	33%	11%	100	90%
ProsiebenSat1 Media	2011	607	367	97	27%	27%	-1%	3,3	72%
ProsiebenSat1 Media	2012	594	527	162	31%	27%	3%	10,3	72%
ProsiebenSat1 Media	2013	610	457	127	28%	27%	1%	5,1	84%
ProsiebenSat1 Media	2010	567	329	88	27%	27%	0%	-11,3	84%
Puma SE	2013	63	54	33	61%	27%	33%	1,30	36%
Puma SE	2012	113	112	33	29%	27%	2%	0,60	37%
Puma SE	2011	333	320	90	28%	27%	1%	1,10	38%
Puma SE	2010	307	302	99	33%	27%	6%	1,80	41%
Rheinmetall	2008	245	193	51	26%	31%	-5%	2	70%
Rheinmetall	2011	354	295	70	24%	31%	-7%	18	71%
Rheinmetall	2012	278	216	43	20%	31%	-11%	18	72%
Rheinmetall	2013	81	35	13	37%	31%	6%	31	74%
RTL Group	2008	500	528	232	44%	32%	11%	34	41%
RTL Group	2010	1112	1128	263	23%	32%	-9%	40	43%
RTL Group	2009	707	734	220	30%	32%	-2%	25	44%
RTL Group	2011	1222	1193	302	25%	32%	-7%	38	44%
RTL Group	2012	979	968	277	29%	32%	-4%	-53	45%
RTL Group	2013	1206	1253	305	24%	32%	-8%	102	58%
RWE	2010	6507	3916	1397	36%	33%	3%	1,948259	84%
RWE	2009	7326	3553	1115	31%	33%	-1%	1,768542	86%
RWE	2008	5887	3120	285	9%	33%	-23%	1,553785	88%
SAP	2009	2588	2435	685	28%	25%	3%	1	37%
SAP	2013	4479	4396	1071	24%	25%	-1%	0	41%
SAP	2011	4884	4768	1329	28%	25%	3%	9	45%
SAP	2012	4041	3796	993	26%	25%	1%	0	47%
SAP	2008	2701	2624	776	30%	25%	4%	1	48%
SAP	2010	2591	2338	525	22%	25%	-3%	3	53%
Schaltbau-Holding AG	2013	36	34	9	27%	33%	-6%	2,45	70%
Schaltbau-Holding AG	2012	30	26	4	15%	33%	-18%	1,61	73%
Schaltbau-Holding AG	2011	27	25	3	13%	33%	-20%	3,92	75%
Schaltbau-Holding AG	2010	24	18	3	17%	33%	-16%	0,18	85%
Schaltbau-Holding AG	2009	20	17	3	17%	33%	-16%	2,31	90%

continue

continued

Schaltbau-Holding AG	2008	22	16	3	17%	33%	-16%	0,33	96%
SGL Carbon SE	2011	166	84	23	27%	31%	-4%	-32,60	54%
SGL Carbon SE	2008	306	259	68	26%	31%	-5%	0,40	58%
SGL Carbon SE	2012	110	24	4	15%	31%	-16%	-32,60	58%
Siemens	2011	7719	9242	2231	24%	33%	-9%	147	70%
Siemens	2012	6988	3977	943	24%	33%	-9%	-333	72%
Siemens	2008	3076	2874	1015	35%	33%	2%	260	72%
Siemens	2009	6236	3891	1434	37%	33%	4%	-1946	72%
Siemens	2013	5009	4692	840	18%	33%	-15%	510	72%
Siemens	2010	6769	5974	1712	29%	33%	-4%	9	72%
Sixt SE	2012	168	119	39	33%	25%	8%	0,09	71%
Sixt SE	2013	174	137	43	31%	25%	6%	0,00	72%
Sixt SE	2011	190	139	41	30%	25%	5%	0,01	74%
Sixt SE	2010	156	102	32	31%	25%	6%	0,03	76%
Sixt SE	2009	67	15	5	31%	25%	6%	0,06	77%
Sixt SE	2008	155	87	25	29%	25%	4%	0,06	80%
Stada	2009	193	142	41	29%	26%	2%	0,544	65%
Stada	2010	162	109	40	37%	26%	11%	0,29	66%
Stada	2008	175	106	28	27%	26%	1%	-1,238	67%
Stada	2011	121	70	47	68%	26%	41%	1,126	70%
Stada	2012	206	136	49	36%	26%	10%	3,813	70%
Stada	2013	253	189	67	35%	26%	9%	1,111	72%
Südzucker	2013	658	502	112	22%	31%	-9%	20,2	63%
Südzucker	2011	751	660	146	22%	31%	-9%	0,9	66%
Südzucker	2012	972	866	132	15%	31%	-16%	13,1	68%
Südzucker	2010	521	443	97	22%	31%	-9%	4,1	69%
Südzucker	2009	403	348	72	21%	31%	-10%	2	73%
Südzucker	2008	258	232	49	21%	31%	-10%	21,6	74%
Surteco AG	2013	37	28	6	22%	26%	-5%	0,13	50%
Surteco AG	2012	30	21	6	30%	26%	4%	0,12	52%
Surteco AG	2011	35	23	11	46%	26%	20%	0,12	55%
Surteco AG	2010	42	32	10	32%	26%	6%	0,12	56%
Surteco AG	2009	34	18	8	47%	26%	20%	-0,02	60%
Surteco AG	2008	37	16	9	57%	26%	31%	-0,07	63%
Takkt AG	2008	117	111	36	32%	31%	2%	0,00	38%
Takkt AG	2011	104	96	30	31%	31%	0%	0,00	45%
Takkt AG	2010	68	59	24	41%	31%	11%	0,00	54%
Takkt AG	2009	49	42	15	34%	31%	4%	0,00	55%
Takkt AG	2013	96	81	29	35%	31%	5%	0,10	61%
Takkt AG	2012	112	100	33	33%	31%	3%	0,00	64%
Talanx	2012	1748	1563	419	27%	32%	-5%	0,007	94%
Talanx	2013	1784	1578	296	19%	32%	-13%	0,013	94%

continue

continued									
Talanx	2011	1238	1084	187	17%	32%	-15%	0	95%
Talanx	2010	1032	898	231	26%	32%	-6%	0,002	96%
Talanx	2009	1497	1405	473	34%	32%	2%	-0,006	96%
Talanx	2008	612	456	341	75%	32%	43%	0,003	96%
Villeroy und Boch AG	2008	24	16	5	31%	29%	2%	0,01	57%
Villeroy und Boch AG	2013	43	34	10	29%	29%	0%	1,40	73%
Volkswagen VZ	2013	11671	12428	3283	26%	28%	-2%	3588	73%
Volkswagen VZ	2012	11498	25487	3606	14%	28%	-14%	13568	75%
Volkswagen VZ	2010	7141	8994	1767	20%	28%	-9%	1944	77%
Volkswagen VZ	2011	11271	18926	3126	17%	28%	-12%	2174	77%
Volkswagen VZ	2008	6333	6608	1920	29%	28%	1%	910	79%
Volkswagen VZ	2009	1855	1261	349	28%	28%	-1%	701	80%
Vossloh AG	2010	152	140	35	25%	32%	-7%	1,40	61%
Vossloh AG	2008	138	128	29	23%	32%	-9%	0,30	64%
Vossloh AG	2009	138	129	32	25%	32%	-7%	-0,20	65%
Vossloh AG	2012	98	76	21	27%	32%	-5%	0,20	68%
Vossloh AG	2011	97	84	24	28%	32%	-4%	0,60	69%
Vossloh AG	2013	54	32	11	35%	32%	3%	0,60	70%
Wacker Chemie	2008	648	642	204	32%	33%	-1%	-33,4	55%
Wacker Chemie	2011	603	567	211	37%	33%	4%	-7,7	58%
Wacker Chemie	2012	267	204	89	44%	33%	11%	-82,5	59%
Wacker Chemie	2013	114	31	25	80%	33%	47%	-36	66%
Wincor Nixdorf	2010	162	156	50	32%	30%	2%	-0,378	72%
Wincor Nixdorf	2009	173	163	50	30%	30%	0%	0,053	73%
Wincor Nixdorf	2013	132	124	36	29%	30%	-1%	-1,348	73%
Wincor Nixdorf	2011	162	155	47	30%	30%	0%	0,736	75%
Wincor Nixdorf	2012	101	90	27	30%	30%	0%	0,733	77%
Wincor Nixdorf	2008	194	181	54	30%	30%	0%	-0,457	79%